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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,876	02/10/2000	Eddie D. Sowle	163.1173USII	4490
7590	09/09/2005		EXAMINER	
James D. Withers Withers & Keys, LLC P.O. BOX 2049 MCDONOUGH, GA 30253			YU, GINA C	
			ART UNIT	PAPER NUMBER
			1617	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Application No.</b>	<b>Applicant(s)</b>	
09/501,876	SOWLE ET AL.	
<b>Examiner</b>	<b>Art Unit</b>	
Gina C. Yu	1617	/

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 2 May 2005.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 77-97 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 77-97 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date .

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .

5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 2, 200 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 85-88 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 85-88 are directed to "the method" in claim 83, which is a composition claim. Claims 85 and 87 recite "the vessel" in claim 83. There is insufficient antecedent basis for these limitations in claim 83.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 77, 82, 83, 89 are rejected under 35 U.S.C. 103(a) as obvious over Holdt et al. (US 4, 683, 072) in view of Kitko (US 4248827).**

Claim 77 is directed to a method of using liquid composition of pH 5.5-7 comprising providing the composition in a vessel, monitoring the dye-color of the composition; and replacing or replenishing the liquid composition when the dye-color is nearly or completely absent, wherein the composition comprises FD & C dye No. 4 or No. 3 having particle size greater than about 500 microns and density less than 0.9 gram-cm3.

Claim 83 claims the liquid composition of pH 5.5-7, comprising FD & C dye No. 4 or No. 3 having particle size greater than about 500 microns and density less than 0.9 gram-cm3.

Claim 89 claims a solid composition which, upon mixing with water, forms an aqueous composition of pH 5.5-7, comprising FD & C dye No. 4 or No. 3 having particle size greater than about 500 microns and density less than 0.9 gram-cm3.

Holdt teaches a disinfectant tablet comprising, among others, 1) up to 50 % by weight of a disinfected selected from a chlorine releasing or an active oxygen containing compound or acid; 2) 5-15 % by weight of a dye in a dye-containing component. See abstract. See Example 1, for the use of sodium dichloroisocyanurate dihydrate. See instant claim 89. The reference teaches using dyes that are "mainly green and blue shades ... which are sensitive to chlorine or active oxygen and change their color more or less rapidly in the presence of hypochlorite or active oxygen or fade out". See col. 2, lines 58 – 66. The reference teaches in Example 3 a cleaning and disinfectant table comprising acid compounds. See instant claim 1(c). The pH of the acid-containing composition is obviously below 7.

The water in which the tablet is dissolved meets the aqueous liquid composition of instant claim 83. The tablet is said to comprise substances to minimize the premature interaction of the components and has improved shelf life. See col. 1, lines 47 – 63; col. 2, lines 22 - 26.

The method of using the aqueous composition by contacting the composition with ware or hard surface and then removing the solution from the ware is met by dissolving the tablet in the toilet which contains water, which is eventually flushed after the disinfection. See instant claim 77. The toilet bowl meets the “vessel” limitation.

While Holdt fails to teach a composition comprising both a chlorine-releasing agent and an acid compound, it would have been obvious to one to one of ordinary skill in the art at the time the invention was made to have combined both in a single composition in a reasonable expectation of successfully producing a cleaning and disinfecting tablet of enhanced effects. Alternatively, the idea for combining compounds each of which is known to be useful for the same purpose, in order to form a composition which is to be used for the same purpose, flows logically from their having been used individually in the prior art. See In re Kerkhoven, (citation omitted). As shown by the recited teachings, the instant claims define nothing more than the concomitant use of conventional disinfecting agents used for toilet bowl cleaning. It would follow that the recited claims define prima facie obvious subject matter.

Holdt fails to teach the duration which the composition changes from colored to colorless state. The reference also fails to teach the amount of dye in as required by instant claim 18. The reference also fails to teach the particle size of dyes.

Kitko teaches a hypochlorite agent which provides transitory visual signal to indicate the activity of the sanitizing agent in a flush toilet bowl. See col. 2, lines 5-20. The dye agents are dispensed into the toilet flush water, wherein the dye is oxidized from a colored state to a colorless state within 5 seconds to 10 minutes after contact with the hypochlorite. See col. 1, line 57 – col. 2, line 20. Sodium dichloroisocyanurate dihydrate of instant claims is among the sanitizing hypochlorite agents for the invention. See col. 2, lines 21 – 49. The reference also teaches that the amount of dye dispensed to the toilet will depend on the color intensity desired, the amount of sanitizing agent dispensed into the toilet with the dye, and on the quickness with which it is desired to have the color disappear. See col. 3, lines 38 –42. The reference further teaches that the dyes which are suitable for use in the method of the prior art invention are those which are oxidized by the sanitizing agent to a colorless state within a period of 5 seconds to 10 minutes from the time they come in to contact with the sanitizing agent during the flushing of the toilet. See col. 3, lines 53-58. The reference teaches that 2-30 ppm of chlorine amount of hypochlorite-providing compound sufficient to provide from about 2 to about 30 ppm. See col. 2, lines 55- 60. See instant claim 18. The reference also illustrate the testing of dyes for the time interval to change its color to colorless stage at catalyzed and uncatalyzed chlorine level of 5 ppm, at pH 6 and 9. See col. 3, line 60 – col. 4, line 58. FD&C dyes, such as FD&C no. 3, are tested. See instant 14. Since the same type of dyes are used in the prior art and the present invention, it is viewed obvious that the particle size of the dyes also the same. The reference teaches that dyes provide the color change within a period of from about 5

seconds to 10 minutes. Using FD&C dye no. 30 or 40 is viewed as an obvious choice for a desired color of the composition or solution. The size of solid, compacted cake containing dye is taught in col. 1, lines 11 – 17.

While the reference teaches that the color change occurs in 5 seconds to 10 minutes, the reference also teaches that the amount of dyes to be used depend on the intensity of the color, and the quickness with which it is desired to have the color disappear, while also suggesting that wide variety of dyes can be used. See col. 3, lines 34 – 52. Examiner views that given this information, one of ordinary skill in the art would have discovered, by routine experimentations, the optimum ratio of chlorine to dye required to produce the color-to-colorless signal within a desired time frame.

The reference teaches to test the types and concentration of dyes and hypochlorite in 3 liters of water. See col. 3, lines 53 – col. 4, lines 59; instant claims 70, 75, and 76. It is noted that differences in concentration generally will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. See MPEP § 2144.05. In this case, given the specific teaching of the concentration of the chlorine source and dye in a tablet in Holdt, and the time required to provide the color change signal with specific amount of dyes and chlorine source as taught in Kitko, a skilled artisan would have been able to optimize the concentration of the dyes and chlorine source by routine experimentations because of the expectation of successfully producing the color-to colorless signal change with a desired time frame.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the composition of Holdt by varying the amount of dye component or hypochlorite agent as motivated by Keiko because 1) both Holdt and Keiko are directed to chlorine bleach compositions with color indicator for the same use; 2) and the skilled artisan would have had an expectation of successfully producing a composition with desired time interval of the color disappearance.

**Claims 78-81, 84, and 90-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holdt and Kitko as applied to claims 77, 82, 83, 89 above, and further in view of Gladfelter (US 5358653) ("Gladfelter") and Na et al. (US 6037318) ("Na").**

Holdt further teaches to make cleaning tablet comprising an acid in the amount of 5-25 % of the total composition. See the first table in Example 3, which teaches that acid is in the amount of 10-50% of Component A. Using citric acid is taught. See col. 6, lines 36 – 39. The reference teaches that using high amount of acid prevents depositsof lime, rust, and/or urine. See col. 6, lines 6 – 15. While instant claims, claims 96 and 97 recite "sodium chloride flakes", the reference teaches using sodium chloride dissolved in water. It is viewed obvious that skilled artisans in the same art would have used the same type of the salts. The reference also teaches using water-conditioning inorganic phosphate sequestering agents in the amount of 0.1-5 % by weight. See col. 9, line 30 – col. 11, line 15.

Kitko, discussed above, further teaches adding sequestering agents, diluents such as water or inorganic salts such as sodium chloride. See col. 4, lines 59-65. .

The reference teaches that the dye should be present in a ratio of available chlorine:dye of from 2:1 to about 150:1, preferably from about 5:1 to 25:1.

Holdt and Kitko fail to teach the composition in encapsulated form.

Gladfelter teaches a chlorinated rinse aid concentrate suitable for dispensing and aqueous rinse concentrate and to methods of rinsing with simultaneous stain removal or sanitization. See col. 3, lines 37 – 41. Examples disclose the preparation of encapsulated active chlorine compound comprising sodium dichloroisocyanurate dihydrate and sodium chloride. See instant claims 84 and 90; Example 22. The reference teaches “the encapsulated chlorine sources, in combination with a polyalkylene oxide type rinse aid surfactants of the invention are stable during manufacture, storage, transportation, and use.” See col. 4, lines 6-11. The encapsulated chlorine source of the invention comprises the core of active chlorine with an inorganic intermediate coating which comprises filler. See col. 4, line 60 – col. 7, line 35. See instant claims 96 and 97. The reference also teaches using 1-30 % of solid diluent carrier. See col. 9, lines 6 – 28. The reference also teaches metal pyrophosphates, including tetrasodium pyrophosphate, potassium and calcium pyrophosphate for use as the intermediate coating. See col. 5, lines 1-16. While the reference fails to teach sodium acid pyrophosphate, this is viewed an obvious variation of the prior art teaching since Gladfelter teaches alkali metal salts of pyrophosphates. The reference teaches the method of using the invention, which include introducing the aid into potable water in rinse cycles at relatively neutral pH, wherein the concentration of the active chlorine is about 3 to 50 ppm. See col. 2, lines 29 – 49. The reference

also teaches using higher chlorine concentration for more effective sanitization. The reference further provides that the concentration required may vary depending on the temperature of the water. See col. 12, line 50 – col. 13, line 7.

While the combined references do not specifically teach the recited weight amount of the ingredients as in claims 91-97, it is noted that Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, the reference teaches the range of chlorine:dye weight ratio, and that the amount of chlorine depends on the temperature of the water and the need for higher level of sanitization. Given these teachings, it would have been obvious to a skilled artisan to discover the optimal weight ratio of the actives by routine experimentation.

The reference also teaches using the solid formulation in aqueous rinse, and further teaches that high concentration of active chlorine is needed for colder rinse water temperature. See col. 12, line 50 – col. 13, line 9. The reference teaches that, in warewashing, rinse aids are contained in a container or basket, as the water reaches to the composition, the dissolved rinse aid is injected to the rinse system by spray arms, which renders the use of a spray bottle obvious. See col. 1, lines 41 – 62. See instant claims 80, 81. As for the limitation where the sanitation and disinfection takes

place in "the third sink", examiner takes a judicial notice that household or institutional kitchens have multiple sinks where prewashing, cleaning, rinsing may be separately performed. It would have been obvious to a skilled artisan to use the sanitizer in a third sink. See instant claims 78 and 79.

While Holdt and Kitko teaches using the chlorine bleach composition with color indicator to sanitize toilet bowl, Gladfelter teaches using the encapsulated chlorine bleach composition to sanitize and disinfect in household or institutional warewashing. Examiner asserts that these references are analogous arts. Na teaches a method of making bleaching hypochlorite composition and states, "hard surface cleaners, bleaches and disinfectants are well known formulated consumer products. They are useful for treating all manner of soiled kitchen, bathroom, sink, tub, shower, toilet bowl and counter top surfaces." See Na, col. 1, lines 16 – 19. Thus, it would have been obvious to one skilled in bleach and disinfectant art to combine and modify the teachings of Holdt, Kitko, and Gladfelter.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Holdt composition by making an encapsulated disinfectant composition as motivated by Gladfelter because 1) both references are directed to chlorine bleach composition for hard surfaces; 2) Gladfelter teaches that the encapsulating chlorine source has special advantage of stability of the composition during manufacturing, storage, and use and allows to add surfactants for stain removal; 3) thus one of ordinary skill in the art would have had a reasonable expectation of successfully producing a stable bleach composition for removing stains and disinfection.

***Response to Arguments***

Applicant's arguments with respect to claims 77-97 have been considered but are moot in view of the new ground(s) of rejection in part and unpersuasive in part.

Applicants state, "the cited references fail to disclose or suggest a composition in which the appearance of the color of the dye is pH controlled to indicate the amount of time that has lapsed since the chlorine activity began". The argument is unpersuasive. Kitko teaches using the same source of chlorine as the present invention, sodium dichloroisocyanurate dihydrate, and the prior art is also designed to produce "dye-color" at pH 6-9 and fades to colorless state upon the completion of the chlorine activity. Applicants' statement "Gladfelter et al. fail to even mention use of a dye" is erroneous because the reference in fact teaches to optionally use dyes.

***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gina C. Yu whose telephone number is 571-272-8605.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gina Yu  
Patent Examiner



SREENI PADMANABHAN  
SUPERVISORY PATENT EXAMINER